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IS 4363 (1980): drip counter E. M. S. Pattern [MHD 10: Medical Laboratory Instruments]



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Indian Standard

SPECIFICATION FOR
DRIP COUNTER E. M. S. PATTERN

(*First Revision*)

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INDIAN STANDARDS INSTITUTION
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Indian Standard

SPECIFICATION FOR DRIP COUNTER E. M. S. PATTERN

(*First Revision*)

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Indian Standard
SPECIFICATION FOR
DRIP COUNTER E. M. S. PATTERN
(First Revision)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 26 September 1980, after the draft finalized by the Medical Glass Instruments and Appliances Sectional Committee had been approved by the Consumer Products and Medical Instruments Division Council.

0.2 Preparation of standards on surgical instruments, medical equipment and apparatus (including medical glass instruments) has been taken up at the instance of the Advisory Committee for Development of Surgical Instruments, Equipment and Appliances (Government of India).

0.3 In this revision certain additional dimensions and the corresponding tolerances have been incorporated on the basis of Defence Specification No. IND/GS/MED/231(a).

0.4 In the preparation of this standard assistance has been derived from IND/SL/MED/231(a) 'Drip counter, all glass E. M. S. pattern' issued by the Ministry of Defence, Government of India.

0.5 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This specification covers the requirements of drip counter E. M. S. pattern used in blood transfusion apparatus.

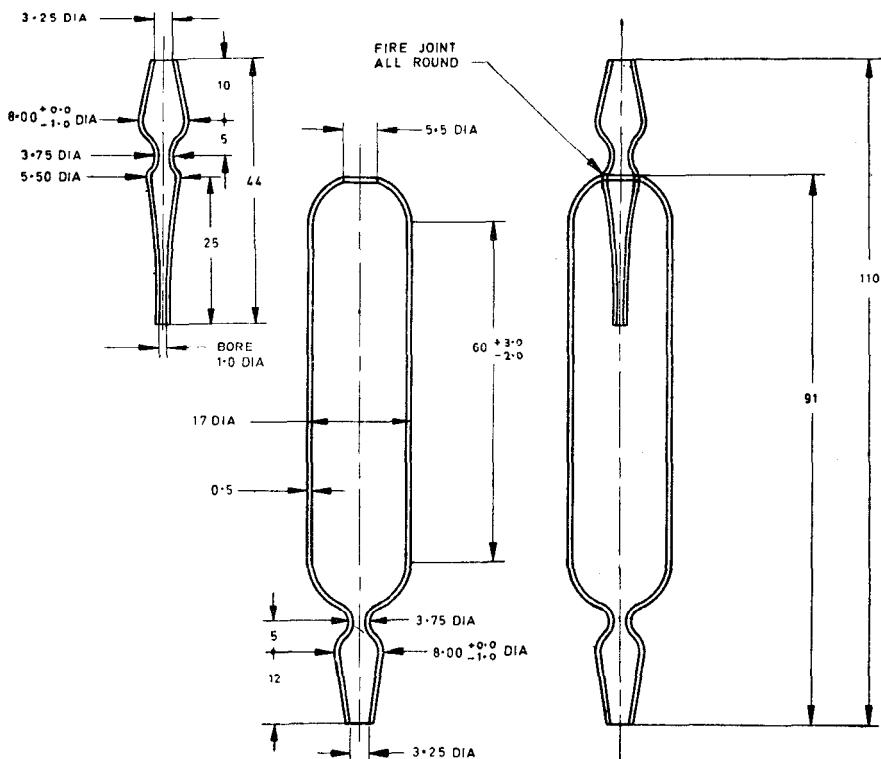
*Rules for rounding off numerical values (revised).

2. MATERIAL

2.1 The drip counter shall be made from clear, colourless, neutral glass (for definitions, see IS : 1382-1961*). The glass shall pass the alkalinity test prescribed in IS : 2303-1963† for Type I glass.

3. SHAPE AND DIMENSIONS

3.1 The shape and dimensions shall be as given in Fig. 1.



All dimensions in millimetres.

FIG. 1 COUNTER, DRIP, E. M. S. PATTERN

*Glossary of terms relating to glass industry.

†Method of grading glass for alkalinity.

4. WORKMANSHIP AND FINISH

4.1 The drip counter shall be well annealed, free from bubbles, and (as far as possible) free from striae, stones and other visible defects (for definitions, see IS : 1382-1961*). The drip counter shall pass the thermal shock test, dry heat test, and autoclave test specified in 5.1, 5.2 and 5.3 respectively. The ends shall be smoothly rounded in the flame. Drip counter shall be so designed that when distilled water is dripping through it, 15 to 20 drops are equivalent to 1 ml.

5. TESTS

5.1 Thermal Shock Test — The drip counter shall be boiled in water for 30 minutes, then transferred in water at about 20°C. It shall not show any chipping or cracking.

5.2 Dry Heat Test — The drip counter shall be subjected to a dry heat test in a sterilizing oven at $180 \pm 2^\circ\text{C}$ for 30 minutes. It shall not show deterioration in any way nor shall it show any chipping or cracking.

5.3 Autoclave Test — The drip counter shall be autoclaved for 30 minutes at a steam pressure of 140 kN/m² approximately. It shall not show any chipping, cracking or other damage.

6. MARKING

6.1 The drip counter shall be marked with the name of the manufacturer, his initials or trade-mark.

6.1.1 The drip counter may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

7. PACKING

7.1 The drip counter shall be packed as agreed to between the manufacturer and the purchaser or alternatively, each drip counter shall be individually wrapped in suitable paper and packed in lots of 24 in suitable cartons.

*Glossary of terms relating to glass industry.

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

<i>Quantity</i>	<i>Unit</i>	<i>Symbol</i>
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous Intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

<i>Quantity</i>	<i>Unit</i>	<i>Symbol</i>
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

<i>Quantity</i>	<i>Unit</i>	<i>Symbol</i>	<i>Definition</i>
Force	newton	N	1 N = 1 kg.m/s ²
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m ²
Frequency	hertz	Hz	1 Hz = 1/s (s ⁻¹)
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m ²

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